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## *Claims*

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What is claimed is:

1. A significant improvement to the existing venturi valve airflow device which is used to produce constant-velocity flow of varying-pressure airflow in a laboratory fume hood whose area opening can be adjusted by sash movement consisting of the following:
  - a. External valve assembly in shaped venturi form
  - b. Internal shaft connected to the external valve
  - c. Internal spring loaded plunger cone that slides along the shaft
  - d. Pivot arm connected to the internal shaft
  - e. Associated actuation device that adjusts the position of the shaft in response to a controlling device that senses airflow changes around the hood opening.
  - f. Insertion of a specially manufactured ring between the spring loaded plunger cone and a washer
2. The controlling system referenced in claim 1 such that the plunger cone is reconfigured so that a piston ring device can be cut and inserted at the time of the assembly of the valve.
3. The controlling system referenced in claim 2 such that the plunger cone includes a tube that is polished at least 4 inches from the opening with no weld seams present.
4. The controlling system referenced in claim 3 such that the shaft at the other end of the valve is also polished
5. The controlling system referenced in claim 4 such that the plunger is attached to the center shaft via fastening screws or cir-clip on the spring side.